Economic Impact Summary

- Cost of conducting NCS outweighed by economic benefits associated with reducing the incidence and prevalence of priority health outcomes
- Estimated annual disease burden from 10 selected health outcomes is approximately $395 billion
  - Includes direct medical spending and indirect costs from reduced productivity
- Estimated annual reduction of $4.0 – 9.7 billion (1.0 – 2.5%) attributable to the NCS
- Estimated annual cost of study: $0.1 billion (represents a 40:1 to 97:1 return on investment)
  - Follow-up research to develop intervention strategies will diminish this ratio

Impact of Research on Health Outcomes

- Studies have cited positive impact of medical research on health outcomes
  - 1998 CBO study stated that academic research has "more than paid for itself"
- Studies have investigated potential reward from investing in basic medical research
  - Murphy and Topel (1999) indicate 'social returns to investment in new medical knowledge are enormous'
  - Silverstein et al. (1995) documented $69 billion in annual economic savings resulting from NIH-supported research
- NIH Annual Budget = ???

Impact of Research on Health Outcomes: Case Studies

- → Research findings led to successful prevention/intervention measures
- → Subsequently led to significant declines in the targeted health outcomes

Case Study	Significant outcome
Sudden Infant Death Syndrome	57% decline in U.S. SIDS rate, 1991-2001
Framingham Heart Study	Mortality rates from cardiovascular disease fell 42%; We estimated 1/3 of decline attributable to Framingham (13 to 20%), and estimate of $455 billion in annual savings 1970-1990
Lead Poisoning	87% decrease in geometric mean blood lead levels; lifetime economic benefits ranging from $110 to $318 billion per annual cohort

Potential NCS Impact on Selected Health Outcomes

Health Outcome	Estimated Annual Economic Burden (in billions of 2003$)	Range of Potential Reductions Attributable to NCS	Potential Annual Economic Savings from NCS
Diabetes	$136.6 billion	0.5 – 1.5 %	$0.7 - 2.1 billion
Asthma	$14.5	3 – 7 %	$0.4 – 1.0 billion
Obesity (excl. diabetes)	$46.3	2 – 4 %	$0.9 - 1.9 billion
Low Birth Weight	$13.1	4 – 7 %	$0.5 - 0.9 billion
Mental Retardation	$51.2	2 – 5 %	$1.0 - 2.6 billion
Injuries/Deaths from Aggressive Behavior:			$0.07 – 0.16 billion
Motor Vehicle Accidents	$19.0	0.15 – 0.35 %	$0.03 - 0.07 billion
Violence	$24.3	0.15 – 0.35 %	$0.04 – 0.09 billion
Impaired Cognitive Ability (1 IQ point) from:			$0.19 – 0.46 billion
Mercury Exposure	$0.8 (60,000 at-risk newborns or 1.5% of total)	5 - 15 % of at-risk newborns (3,000 - 9,000, 0.08 - 0.15% of total)	$0.04 - 0.12 billion
Nonpersistent Pesticide Exposure	$49.0 (90 percent of births)	0.3 – 0.7 %	$0.15 - 0.34 billion
Autism	$40.6	0.5 – 1.5 %	$0.2 - 0.6 billion
Total	**$395.4 billion**		**$4.0 - 9.7 billion**

Conservative Estimates of Potential Reductions

- Not all cases are ‘in-scope’
- Prevalence/incidence reductions may be attributable to other factors, not just those investigated in NCS core hypotheses
- Not all hypotheses will be validated
- Entire reduction not attributable to NCS because other research studies being conducted
- Reductions from current levels of disease burden as opposed to future levels (see Figure)